



IPv6 Testing at the UNH InterOperability Lab

Overview

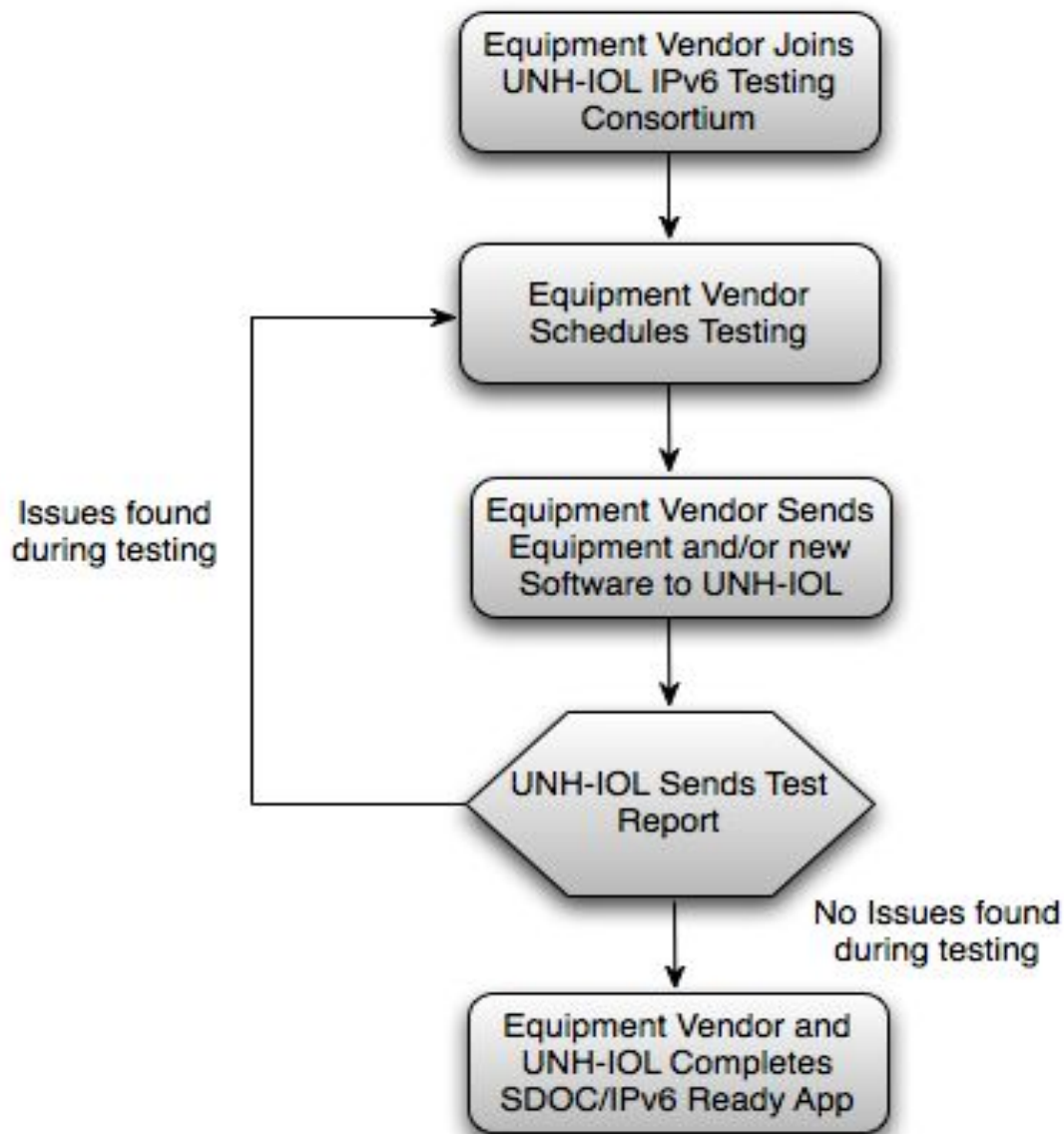
The UNH InterOperability Lab (UNH-IOL) has been testing Networking and Communications since 1988. Fully owned by the University of New Hampshire, the lab receives 100% of its funding from commercial companies in exchange for professional and testing services. Testing services include areas such as Ethernet, xDSL, Storage, Wireless and Internet Protocol (including IPv6).

Benefits of an IPv6 Consortium Membership:

- **ISO 17025 accredited USGv6 and IPv6 Ready Testing** - The IPv6 Consortium offers your company accredited testing that has passed vigorous quality and procedural standards. This testing will ensure your company's requirements for federal agency IPv6 SDOC approvals and IPv6 Ready Logo. The UNH-IOL offers assistance with USGv6 SDOC completion and maintains a list of [USGv6 Tested Devices](#).
- **Access to Custom Test Tools** - Our custom conformance test tool, [IOL INTACT®](#), offers full PASS/FAIL result reporting to make testing and identifying issues easy. IOL INTACT® is available for purchase so customers can utilize the same software we use in their own labs. Support for IOL INTACT® is included in an IPv6 consortium membership.
- **Reduce time to market** - The IPv6 Consortium is an extension of your lab. Our technical expertise, test tools, and test bed will help you pin point bugs you may have missed. Not only will this free up valuable time for your company, it will also improve your user experience.
- **Unsurpassed in house equipment** - Testing is conducted in the laboratory's *32,000+ square foot facility*, which houses a multi-million dollar array of test equipment and the latest devices from [Member companies](#). In return for their latest devices and support, Members are entitled to high-caliber interoperability testing against other vendors' devices.

Proposed Process

Since 1996, the IPv6 testing consortium at the UNH InterOperability lab has had a process in place to perform independent IPv6 equipment analysis. The process that has been used by companies to achieve their IPv6 testing results is stated below.




Collaboration Model

This proposal is to establish a working relationship with in which your company's equipment can receive USGv6 Test results in a quick, effective manner. Testing memberships allow a scalable approach to IPv6 testing as each membership allows test rotations to be scheduled throughout the year. Two variables dictate the amount of recommended testing: Number of tests that are needed to achieve an "all pass" state and amount of equipment that needs testing. These variables must be discussed in further detail as the project develops.

Sample Report Style

The technical results will be documented in a standard report format. These reports will be sent to the membership owners through our online vendor site.



IPv6 Ready Core Logo, USGv6 Basic, SLAAC Conformance Report

University of New Hampshire IPv6 Consortium

InterOperability Lab — 121 Technology Drive, Suite 2 — Durham, NH 03824 (603) 862-2804

Technical Manager:	Timothy Winters	twinters@iol.unh.edu
Technician:	Jane Doe	jdoe@iol.unh.edu

September 4, 2014

John Smith
XYZ, Inc.
121 Technology Drive Suite 2
Durham, NH 03824

Dear John Smith,

Enclosed are the results for the IPv6 Ready Core Logo Base Specification, USGv6 Basic Requirements and USGv6 SLAAC requirements performed on the following:

Product Name	XYZ 8950
Product Description	Storage System
UNH-IOL Product ID	IPv6-XYZ-000011111
Software Version	12.7
Product Category	Host
MAC Address	00:11:22:33:44:55
Link-Local Address	FE80::1234:2345:456:4455

This testing pertains to a set of standard requirements, put forth in RFC1981, 2460, 2474, 3168, 4291, 4443, 4861, and 5095. As always, we welcome any comments regarding this Test Specification.

If you have any questions about the test procedures or results, please feel free to contact me via e-mail at twinters@iol.unh.edu or by phone at 603-862-2804.

Please use Adobe Acrobat to validate the authenticity of this document.

Section 1: RFC 2460

Test Number	Logo Core	USGv6 Basic	USGv6 SLAAC
v6LC.1.1.1 Version Field	PASS	PASS	N/A
v6LC.1.1.2 Traffic Class Non-Zero - End Node	PASS	PASS	N/A
v6LC.1.1.4 Flow Label Non-Zero (A)	PASS	PASS	N/A
v6LC.1.1.5 Payload Length (A)	PASS	PASS	N/A
v6LC.1.1.5 Payload Length (C)	PASS	PASS	N/A
v6LC.1.1.6 No Next Header After IPv6 Header (A)	PASS	PASS	N/A
v6LC.1.1.7 Unrecognized Next Header (A)	PASS	N/A	N/A
v6LC.1.1.7 Unrecognized Next Header (B)	PASS	N/A	N/A
v6LC.1.1.8 Hop Limit Zero - End Node	PASS	PASS	N/A
v6LC.1.2.1 Next Header Zero	PASS	N/A	N/A
v6LC.1.2.2 No Next Header after Extension Header (A)	PASS	PASS	N/A
v6LC.1.2.3 Unrecognized Next Header in Extension Header-End Node (A)	PASS	N/A	N/A
v6LC.1.2.3 Unrecognized Next Header in Extension Header-End Node (B)	PASS	N/A	N/A
v6LC.1.2.4 Extension Header Processing Order (A)	PASS	PASS	N/A
v6LC.1.2.4 Extension Header Processing Order (B)	PASS	PASS	N/A
v6LC.1.2.4 Extension Header Processing Order (C)	PASS	PASS	N/A
v6LC.1.2.4 Extension Header Processing Order (D)	PASS	PASS	N/A
v6LC.1.2.5 Option Processing Order (A)	PASS	PASS	N/A
v6LC.1.2.5 Option Processing Order (B)	PASS	PASS	N/A
v6LC.1.2.5 Option Processing Order (C)	PASS	PASS	N/A
v6LC.1.2.6 Options Processing, Hop-by-Hop Options Header - End Node (A)	PASS	PASS	N/A
v6LC.1.2.6 Options Processing, Hop-by-Hop Options Header - End Node (B)	PASS	PASS	N/A
v6LC.1.2.6 Options Processing, Hop-by-Hop Options Header - End Node (C)	PASS	PASS	N/A
v6LC.1.2.6 Options Processing, Hop-by-Hop Options Header - End Node (D)	PASS	PASS	N/A
v6LC.1.2.6 Options Processing, Hop-by-Hop Options Header - End Node (E)	PASS	PASS	N/A
v6LC.1.2.6 Options Processing, Hop-by-Hop Options Header - End Node (F)	PASS	PASS	N/A
v6LC.1.2.6 Options Processing, Hop-by-Hop Options Header - End Node (G)	PASS	PASS	N/A
v6LC.1.2.6 Options Processing, Hop-by-Hop Options Header - End Node (H)	PASS	PASS	N/A
v6LC.1.2.8 Options Processing, Destination	PASS	PASS	N/A

Membership Detail

Option 1: IPv6 Consortium Membership	Annual Fees
<ul style="list-style-type: none"> ○ USGv6 Test Program Testing ○ IPv6 Ready Logo Testing ○ IOL INTACT® Support ○ Schedule one test slot per membership on a first come first serve basis. (See Proposed Process) ○ Support up to 2-3 IPv6 stacks. These are tested serially throughout the year. ○ Free Regression testing ○ Free failure retests in between test slots ○ Overtime options for expedited testing (subject to additional fees) ○ IPv6 Application Custom testing (subject to additional fees) 	\$25,000 USD
IPv6 Consortium Membership (Firewall Tier) Only	
<ul style="list-style-type: none"> ○ USGv6 NPD Test Program Testing 	\$15,000 USD*1

Option 2: IOL INTACT Support-only Membership	Annual fees
<ul style="list-style-type: none"> ○ Training and support for IOL INTACT® software 	\$10,000 USD

Option 3: Non-Member IPv6 Pay Per Test Fees	Non-member fees
Package A (IPv6 Ready Logo/USGv6 Core) <ul style="list-style-type: none"> ○ Core Test Specification (Phase-2 Core) ○ Address Architecture Specification 	\$10,000 USD
Package B (IPv6 Ready Logo/USGv6 Full) <ul style="list-style-type: none"> ○ Core Test Specification (Phase-2 Core) ○ Address Architecture Specification ○ IPsec/ESP Specification ○ IKEv2 Specification ○ DHCPv6 Specification 	\$15,000 USD
Address Architecture Test Specification	\$3,000 USD
IPsec Test Specification	\$6,000 USD
IKEv2 Test Specification	\$6,000 USD
DHCPv6 Test Specification	\$6,000 USD
NPD Test Specification	\$6,000 USD
Custom Application Testing	\$7,500 USD*2

1 Note: At any time during the active membership, the Firewall tier may be used towards a full IPv6 Consortium Membership.

2 Note: Additional Fees may apply to Test Specification Development.

*Applies to all of the above: The prices above include a full test run for Conformance only. If the conformance is 100% pass, the Interoperability test specifications will be performed at no extra charge. Please inquire if you are in need of an Interoperability Only quote.

Summary

The UNH-IOL maintains a strong reputation for accuracy, technical excellence and non-biased leader in IPv6 equipment analysis. Selection by your company will significantly reduce costs to alternative IPv6 testing efforts. The UNH-IOL would like to establish a repeatable model in order to sustain a long-term relationship. The collaborative membership model has proven success over the past 21 years of data communications and storage testing at the UNH-IOL.